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ABSTRACT

Focusing on suggestions about selecting media for use by teachers, this paper summarizes a follow-up qualitative research study on a seventh grade teacher's approach to the selection of print and non-print media and presents a revised critical schema for such selection. The paper notes that the follow-up study indicated that the expression of student views related to media entered into the teacher's deliberative process and significantly changed the critical schema already developed based on the initial study of a third-grade teacher. The schema featured in the paper is based on the type of selection decisions made by the seventh-grade science teacher and how his decisions compared and contrasted with those of other teachers and students who were interviewed. The paper concludes that teachers should have access to the value-laden, critical position of the producers of media to assist them in making context-related decisions about the selection of media. (A list of 97 references is attached.) (RS)

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A Revised Critical Schema for Planning and Selecting Print and Non-print Media for Socially Diverse Classroom Environments

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I. Introduction

The initial reason for investigating the selection of print and non-print by teachers was a perceived inconsistency between ideas about how media selection by teachers occurred in schools. While there seemed to be a great deal of literature about how teachers **should** select media for use in their classrooms, there was very little information about how teachers **did** select media.

This paper briefly summarizes a qualitative research study about how a seventh grade science teacher selected print and non-print media for classroom use. The research is an extension of an earlier study of a third grade teacher's selection of print and non-print media for classroom use. The first study concluded with a critical schema for selecting print and non-print media based on the types of issues that arose during the study. The follow-up study brought new issues to the research and to the criticism based schema for planning and selecting media for diverse classroom environments. Among these new issues were student opinions related to media selection. The expression of student views relating to media presented in seventh grade science entered the teacher's deliberative process when selecting media and significantly changed the critical schema for selecting print and non-print media posed during the previous study of a third grade teacher.

Tentative or working statements were made about media selection routines of the case study teacher. These routines were interpreted through the social interaction theories of George Herbert Mead, John Dewey, and various neo-pragmatists.

The paper focuses on suggestions about selecting media for use by teachers. The schema featured in this segment of the paper is based on the type of selection decisions made by the case study teacher and how his decisions compared and contrasted with those of the other teachers

and students who were interviewed. It seemed reasonable, based on the data, to draw the conclusion that teachers should have access to the value laden, critical position of the producers of media in order to assist them in making context related decisions about the selection of classroom media. In addition, teachers might benefit from having a variety of options for using prepared media. The combination of a clearly stated critical viewpoint and planned flexibility could increase the usefulness of media in socially diverse classrooms where several culturally centered views of the world are present.

II. The Difference between Prescription and Practice

The problem arose from a perceived inconsistency between at least two literature bases. On one hand, instructional design and technologically-oriented media selection literature suggested that planning and the selection of materials ought to proceed from behavioral objectives and the characteristics of media delivery systems (Tosti & Ball, 1969; Bliel, 1975; Levie, 1975; Bloom, 1976; Jones & Russel, 1979; Carey & Carey, 1980; Lake, 1980; Forshay, 1982; Reiser & Gagne, 1982; Reigeluth, 1983; Heinich, 1984, 1985; Kemp, 1985; Gagne, 1985, 1987; Romiszowski, 1988). On the other hand, studies on and commentaries about teacher planning and teacher thinking suggested that planning proceeds from materials and activities rather than mechanically from objectives to appropriate materials (Taba, 1962; Beckman, 1979; Yinger, 1977, 1979; Reid, 1978; Morine-Dershimer, 1979; McCutcheon, 1981; Anyon, 1981; Marx & Peterson, 1981; Taylor, 1981; Eisner, 1982, 1985; Rothe, 1983; Clark & Peterson, 1986; Sanders & McCutcheon, 1986). The solution to the puzzle was not in which viewpoint might be correct, but rather in what happened as teachers selected materials for classroom use and how we might understand that selection process. There were studies about how teachers planned, but I was not able to locate research concentrating specifically on teachers' selection of curriculum materials. Most studies in instructional design either provided selection guidelines for selecting media delivery systems (e.g., slides vs. television), or concentrated on utilization procedures. Both of the media selection studies by this

researcher focused on teachers and attempted to understand the selection decisions that teachers made when choosing curriculum materials.

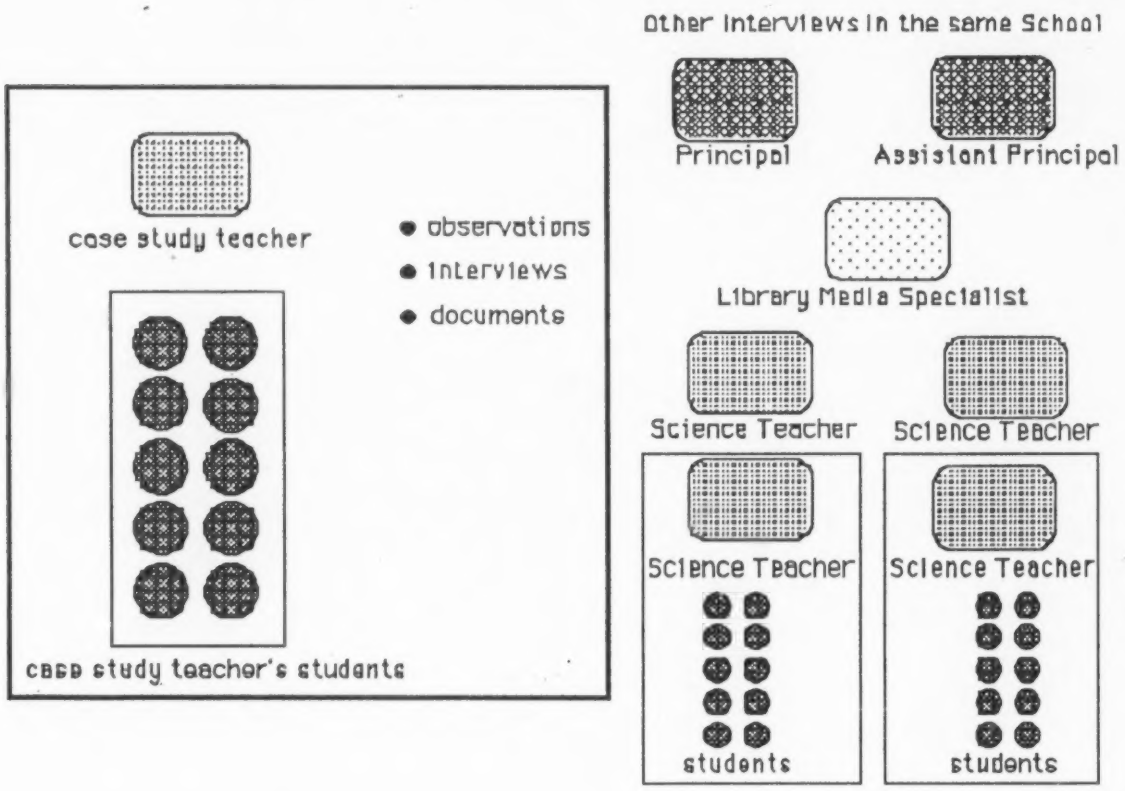
III. Procedures

The topic of the paper is a revised critical schema for planning and selecting print and non-print media for socially diverse classroom environments. It is not a research report, but it is research based, so I will briefly describe the research procedures.

Qualitative research methods were used to describe the selection routines of one seventh grade public school science teacher over a 12-week period. Case study procedures included observations, interviews, and the collection of documents. Administrative influences were noted as well as examples of media selected by the case study teacher. Two administrators -- the principal and assistant principal -- were interviewed as was the school's Library Media Specialist, in order to gain insight about school building policies toward media selection by teachers. Four additional seventh grade science teachers (in the same junior high school) were interviewed using an interview guide adapted from an earlier study involving a third grade teacher's media selection patterns. The interview formats were modified in light of data gathered from the case study of the seventh grade science teacher. Other science teachers in the same school were also interviewed to ascertain how their media selection patterns might vary from that of the case study teacher. This was done to gain understanding about how case study data might transfer to other classrooms. In addition, 30 students from three different science classes (10 were from the case study teacher's class) were interviewed. Interview guides used with the teachers were modified for use with students. Student responses were compared and contrasted with their teacher's responses to provide three groups of interviews. There were several reasons to interview students. First, the case study teacher was aware of student attitudes toward various types of print and non-print media and he based many of his media selection

decisions on student interests and preferences. Second, students' perceptions of their teachers' media selection decisions were compared to teachers interviews, to observations, and to school documents to learn more about media selection in the case study teacher's class and in other science classes.

The following diagram illustrates the research design.



As you can see from the diagram, the investigation concentrated on the case study teacher's classroom. Other interview data were collected to provide more information about the case study teacher's school building environment. For example, interviews with two other science teachers and those teachers' students allowed comparisons about media selection

by other teachers in similar circumstances. The intent of these comparisons was to learn more about how the case study teacher viewed the school environment. In addition, interviews with two administrators and the Library Media Specialist helped to describe the case study teacher's context. By context I mean the people, place, and situations (situation refers to activities, goals, and organizational structures) an individual works in and with. Knowing more about context meant knowing more about the media selection practices of the case study teacher.

IV. Relevance of the Research to a Schema for Selecting Media in Socially Diverse Classroom Environments

The research findings are relevant in two ways. First, when this study and the previous study of a third grade teacher are compared, different media selection practices emerge. These differences appear to be related to different practical theories of teaching and to different contexts. Second, in this study of a seventh grade teacher's media selection decisions, students were interviewed to sample their attitudes toward media selection by teachers, because teachers seemed to be influenced by student attitudes about classroom media. Students had different attitudes about what type of media should be used in classrooms based on how they thought they learned best. Neither teachers nor students focused on fulfilling specific behavioral objectives when discussing media selection, but rather on how media functioned to help them teach and learn. A schema for selecting media in socially diverse classroom environments involves attention to individual and group differences. If media selection varies among individuals and contexts, one would expect these distinctions to be of interest to those who study socially diverse classrooms.

This section will provide a brief overview of differences between the present case study of a seventh grade science teacher and the previous case study of a third grade teacher. Also, remarks by students indicating their individual perspectives about media selection will be summarized.

The section will close with some remarks about the nature of diversity along with ideas about the relation of schools to diverse social contexts.

The Teachers

The differences between the third grade teacher and the seventh grade science teacher and how they selected media are too numerous to enumerate here; instead, a few differences will be listed. However, because other science teachers in the same school spoke about media selection routines which were very different from that of the case study teacher, there is no reason to believe the differences between the third grade teacher and the seventh grade teacher were based solely on grade level. Comparisons are made between these two teachers because I have more data by which to compare them.

Third grade teacher	Seventh grade teacher
1. Planned in three month segments	Planned in shorter segments: a week or two
2. Media tended to be clustered around certain subjects	No discernible concentration of media around specific subject areas
3. Used more media around favorite topics	Used media to illustrate difficult topics
4. Stored most media in classroom	Very little media stored in classroom
5. Emphasized student production of classroom media	Very little student production of classroom media
6. Student selection of media common	Teacher selection of media dominant
7. Teacher production of media common	Very little teacher-produced media
8. Did not use television often	Used television often if related to Course Content Guide

9. Multiple simultaneous classroom activities common	Single classroom activities common
10. Departed significantly from text-book but taught to Course Content Guide	Adhered to structure of text-book supplemented with other media to provide additional learning opportunities

Both of these individuals were considered to be successful, effective teachers by their respective school administrators. They simply used different media selection routines which were related to their own practical theories of teaching. Perhaps a clearer definition of practical theories of teaching is in order as well as an explanation of how the concept relates to media selection.

Sanders & McCutcheon (1986) provided a definition of practical theories of teaching. "Practical theories of teaching are the conceptual structures and visions that provide teachers with reasons for acting as they do, and for choosing the teaching activities and curriculum materials they choose in order to be effective" (p. 54). Practical theories of teaching are not scientific because they are particularistic and individualistic (Sanders & McCutcheon, 1986, p. 63). They are particularistic because practical theories are centered in a singular value laden context. Teachers are concerned with whether their theories are valid in the present with the children they are trying to educate rather than whether their theories can generalize to all instances of a given kind. Practical theories are individualistic since they are specific to an individual teacher's skills and knowledge.

McCutcheon (1988) continued to emphasize the interplay between practical theories of teaching and activities and media selection in the following excerpts from one of her recent articles. "Teachers can emphasize certain materials over others. Further, teachers may be more enthusiastic about a certain topic, skill, or understanding, which may permit them to provide more intriguing lessons and assignments than when a topic, skill or understanding is of less interest to them" (pp. 197-198). "Teachers are the filters through which the mandated curriculum

passes. Teachers must also make sense of the context of the neighborhood, their students, parents' hopes and dreams, the social setting within the school, as well as the shape of the nation itself and fit the objectives into these understandings" (p. 198). McCutcheon (1988) cited an example of classroom materials that acknowledged the active planning role of teachers and their practical theories of teaching from the *Project Wild Elementary Activities Guide*, which encouraged instructors to:

> . . . pick and choose from the activities. Each activity is designed to stand alone, without other project wild activities. There is no need to do the activities in order, nor to do all the activities, even for a grade level. However, the activities have been placed in a thematic and developmental order that can serve as an aid to their use. . . Instructors may use one or many Project Wild activities. The activities may be integrated into existing courses of study, or the entire set of activities may serve quite effectively as the basis for a course of study. (p. 202)

This passage from the Project Wild activity manual indicates a sensitivity to the particularistic and individualistic qualities of teaching and practical theories of teaching that teachers hold. Of course, not all organizational practices and operating policies encourage teachers to use their own judgment (McCutcheon,1981). For example, this memo from a school principal placed restrictions on what a teacher could use: "Supplementary materials are not to be stenciled and duplicated. It is the feeling of the administration that materials in the textbooks are adequate and must be completed before other materials are introduced into the curriculum" (p. 54). In this instance, it is possible that teachers may be forced to adopt materials as part of their instructional program. However, if given a choice, teachers can either reject the materials (McCutcheon, 1988), or accept them as their own. In the latter case, Van Manen's (1977) comments may be appropriate: "A teacher who adopts a certain set of curriculum materials as part of his instructional

program has to make the intentions and the orientation of the author(s) of the material his own" (p. 219). If we accept Van Manen's position, practical theories of teaching can be influenced by materials instead of materials being modified by a teacher's practical theories of teaching. In less dramatic variations than those of Project Wild, it seems reasonable that there might be a mutual interplay between educational practices, activities materials, and a teacher's personal theories of teaching.

The interaction between educational practices and materials is a significant one when socially diverse schools are considered. It is an idea that is central to this paper.

The Students

Although students did not actively choose media in the seventh grade science teacher's classroom, they had a considerable impact on what print and non-print materials were chosen for use in their classroom. Mr. Stewart taught five identical seventh grade science classes each day. He judged the instructional merit of media by observing his first period class. "Well, . . . that is one of the first things I want to notice when I make a presentation and it doesn't grab my first period class -- I'm going to change it immediately" (p. 21, interview notes). Earlier in the interview he described how he determined when instruction was engaging his students: "The way the kids reacted. The way the kids performed. The way they turned in their papers with evaluations on them" (p. 19, interview notes). He also conducted a continuous non-verbal evaluation: "They are curious. I can tell which ones are curious because they look up and they stop what they are doing and they want to know more. I can tell by the expression on their face" (p. 4, interview notes). There was a constant interaction between Mr. Stewart and his students about print and non-print media.

The thirty students interviewed during the case study took media very seriously. They did not, on the whole, expect or want to be entertained by the media used in their classrooms: "I don't want videos to be cute,

with funny animals or pictures. I want them to tell me what I need to know" (student 10, p. 3, interview notes). "I like transparencies because I can copy things that are important, like definitions and lists" (student 21, p. 4, interview notes). Computers, audio tapes, 16mm movies, models of things, videos, transparencies, filmstrips, and slides were seen as instruction rather than as entertainment. Their emphasis, as a group, on instructional treatment rather than a strong preference for any one medium, agrees with research by Clark (1983) and Newman (1992), who suggested that instructional treatment is more important than the characteristics of a particular media delivery system. Students did indicate some personal preferences for particular kinds of media based on what they perceived to be their learning style. Seventh and eighth grade students expressed a slight preference for models (e.g., a skeleton, the ear, the eye, a molecule, etc.) over other classroom print and non-print media. Even though students did influence which media products teachers selected, science teachers expressed surprise at the popularity of models with seventh and eighth science students. In addition, students liked group based instruction better than lectures and were enthusiastic about media like CD ROM, encyclopedias, atlases, and data bases that allowed them to work in groups. Given the significance of student influence on teacher selection of media, it would seem reasonable to suggest that students should be encouraged to become more active in the media selection process.

The Nature of Diversity

I would like to repeat an earlier statement of Van Manen (1977) to emphasize the role of diversity in media selection. "A teacher who adopts a certain set of curriculum materials as part of his instructional program has to make the intentions and the orientation of the author(s) of the material his own" (p. 219). Often, students and teachers use computer programs, videos, filmstrips, and other media not of their own making. Although students and teachers do influence media selection, quite often teachers must plan from print and non-print media on hand (McCutcheon, 1979; Taylor, 1980). When this happens, it is the

orientation of the authors of instructional matters rather than the orientation of the teacher that is presented. The following question may be important to ask when using pre-packaged media: Whose knowledge is to be counted as legitimate knowledge in classrooms? This is a question basic to media selection by teachers who seem to have their own practical theories of teaching and who appear to be influenced by students from the local community. Should it be a question answered solely with media produced by those not involved in the context of a particular school? Those who are outside that context cannot be aware of the unique practical theories of teaching present in the classroom and school. As Anyon (1980) pointed out in her article, "Social Class and School Knowledge," individual schools can differ quite dramatically. The tension between the use of commercially produced print and non-print media in classrooms and local ideas about practical theories of teaching raises the question of social diversity, or pluralism: Should the authors of media determine what particle theory of teaching is to be enacted in the classroom or is this decision reserved for the classroom teacher? To aid in addressing this question, I would like to discuss the idea of social diversity.

For the purposes of this paper, social diversity, or pluralism, is a theory that reality is composed of a variety of constructed realities and that members of diverse ethnic, racial, religious or social groups can autonomously participate in the development of their traditional culture or special interests while contributing to a common cultural reality. If culture is understood as the sum total of what people do together, then a cultural reality can, at the same time, be diverse and recognizable.

Often, pluralism is referred to simply as a theory that society is diverse in its makeup (Mish, 1984). However, diversity may constitute an incomplete idea of pluralism. Bernstein (1983) described Arendt's version of plurality:

> By plurality, Arendt does not merely mean that there is "otherness," that there are individuals who oppose or thwart

> my desires, passions, interests, and ambitions. Rather, it means that there is a unique distinctiveness about each and every individual, rooted in human natality, the capacity to begin, to initiate, to act. Plurality is not so much a permanent state of being as an achievement realized only when individuals act. "To act, in the most general sense, means to take an initiative, to begin. . . to set something in motion." A life without speech and without action. . . is literally dead to the world; it has ceased to be a human life because it is no longer lived among men." Human plurality is the basic condition of action and speech because action and speech take place between men in their singularity and plurality. Action then is, intrinsically, political activity requiring the existence of that public space or polis within which individuals can encounter others and reveal who they are. (p.208)

It has been suggested that education may be such a public place. Greene (1976) encouraged teachers to use their own voices to shape the school environment and "to create the kinds of spaces where dialogue can take place and freedom can appear" (Greene, 1986, p. 73). Greene's admonition seemed to be about teachers taking an active role in creating a diverse environment for educating students. What would such an environment look like? How would it work? What would prevent a diverse environment from turning into a chaotic one? Although there probably are no simple answers to such complicated and far-ranging questions, insight may be gained by examining some ideas about social interaction.

George Herbert Mead's framework for understanding social interaction may relate to an understanding of how pluralism functions. The expectation that this unique viewpoint concerning social interaction may aid in studying pluralism is the point of the following short section about Mead's ideas. There is no claim here that Mead's version of pluralism is more valid than any other. It is merely a helpful concept which may

provide a limited comprehension of some aspects of social interaction. Arendt claimed, in the quotation above, that "a life without speech and without action. . . is literally dead to the world; it has ceased to be a human life because it is no longer lived among men." She was not alone. George Herbert Mead was also committed to a social idea of self. For him, the social act was the unit of social existence. It consisted of stimulus, manipulation, and response (Miller, 1973). Manipulation was the focus of an act. For Mead, manipulation was what makes us human. Manipulation meant to rehearse action in terms of an anticipated response of others before engaging in an act.

Manipulation was how a concept of self was formed. According to Mead, by rehearsing the reaction of other people to our own actions we form a concept of self. In order to understand manipulation more clearly, some other terms should probably be introduced and explained. Among them, "experience" and "adjustment" might contribute to clarifying how Mead viewed the formation of self. "The environment of living organisms is constantly changing, it is constantly invaded with other and different things. The assimilation of what occurs and that which recurs with what is elapsing and what has elapsed is called experience" (Miller, 1973, p. 37). This is a process of taking what occurs via the senses into a system of awareness about what is happening and remembrances about what has happened.

The validity of what occurs depends on practical outcomes in terms of adjustment. "The process of adjustment is therefore a case in which items in the old system must adjust to the emergent and it to them, and the adjustment has definite implications for the future" (Miller, 1973, p. 23). Mead's notion of the social act is grounded in experience. The most primitive sort of experience is the nonsocial act. "A nonsocial act is an ongoing event that consists of stimulation and response and the results of that response" (Miller, 1973, p. 31). The response leads to some sort of adjustment. In contrast, during the social act there is a manipulatory phase that might be referred to as reflexiveness. "By reflexiveness Mead meant, '. . . the turning-back of experience of the

individual upon himself . . .'" (Franklin, 1975, p. 6). During the social act there is a manipulatory phase in which incoming stimuli are subjected to reflexiveness before consummation (response) occurs. The manipulatory phase is the social phase because objects or symbols are "reflected upon" in terms of a social perspective. "A perspective, then, requires the selection of that which is necessary for the adjustment of the organism, an adjustment made by completing the act" (Miller, 1973, p. 32). Social acts seem to require a shared perspective for adjustment. Shared perspective may be understood through the following:

> Taking the role of another happens when the individual is able to evoke in himself by his own behavior (gesture) the same response (a functionally identical response) that his behavior evokes in another. . . The role which is shared by the other is the role manipulation fundamentally in that all shared experiences derive from it. (Miller, 1973, pp. 33-34)

Thus, individuals look at their own response in terms of a perspective shared by others. They manipulate objects and symbols by internalization of the knowledge of the community. The connection between language and the development of self is direct. "Communication is a relationship between one part of the social act, the gesture, and the response of adjustment by a second form to that gesture" (Miller, 1973, p. 47). A gesture is part of a social act which requires manipulation by another. "Language gestures are the means by which functionally identical responses are evoked in both the speaker and the other to whom the gesture is addressed" (Miller, 1973, p. 48). Communication through language is a method of development of self for individuals and the common community in which individuals participate. Common or shared attitudes may be formed through this process. An attitude is defined as "a readiness to respond in a certain way when a particular that will fulfill or aid in completing the act is present" (Miller, 1973, p. 82). ("Particular" refers to a specific object or symbol belonging to a class that elicits a functionally similar response as it would from other members of the same class.) "The organized set of attitudes, and their corresponding

responses which are common to the group, is the generalized other" (Miller, 1973, p. 49). It is the generalized other as the self views it. The generalized other appears to be the shared moral which the community carries in its traditions (Miller, 1973). Duality of generalized other and self seems to be a constant interlocking, mutually formative process. The duality can be see in Mead's comments about self (Franklin, 1975).

> The fully developed self for Mead had two phases, which he called the "I" and the "me." The "me" represented the attitudes called for by the generalized other, that is, society. The "I" constituted the response of the individual to these attitudes. "I" then represented the individual's particular and unique identity within social life. As such, self for Mead was not a physical object, such as the brain or the body. The self was reflexive, which an object, such as the body was not. (p. 6)

Mead's notions about the formation of self through symbolic interaction with a generalized other are important for several reasons. First, symbolic interaction outlines a specific version of how an individual is related to community-based knowledge. Although my presentation of Mead's theory of symbolic interaction is adumbrated, enough elements may be present for the reader to comprehend that a relationship exists between the formation of an individual self and a larger knowledge consisting of shared perspectives and attitudes related to social activity. Within the parameters of Mead's ideas, knowledge might be construed to mean a shared framework of ideas about words, objects and other symbols which inform the social act. Knowledge may be dependent on the shared perspectives, attitudes and communication that the individual perceives as a generalized other. A generalized other may be understood to be "the organized set of attitudes and their corresponding responses which are common to the group" (Miller, 1973, p. 49). The size of the group may be as small as a family or as large as the social acts of the group extend. Group based knowledge may be understood, in Mead's terms, as symbolic; therefore, a shared framework of ideas about words, objects

and other symbols which inform social acts seems to be a conception of knowledge appropriate to this viewpoint. In this perspective social control is based on such a framework. For Mead, social control existed as long as individuals within society had a role in defining the social objects (symbols) which they confronted. Social control broke down when individuals were excluded from defining social objects (Franklin, 1975).

Participation in defining social objects occurs when media is selected by teachers for classroom use. The seventh grade science teacher respected his students' views and "rehearsed" how they might react to the print and non-print media he selected for use in his classroom. If students feel that they have shared in the shaping of their teacher's behavior then they might also feel they have a positive role defining the classroom as a generalized or normative other. This model of shared responsibility contrasts to the idea of accountability as outlined by Taylor and Johnsen (1988).

> . . . Responsibility presumes that humans have the potential to act as free moral agents guided by deliberation and internal sanctions, in choosing their acts in the light of the consequences. Responsible action can be intense but it is never mindless. Accountability, on the other hand, means being subject to giving an account to an external agent who has prespecified a minimum standard to be achieved. Accordingly, accountable action can be intense but is often mindless. Responsibility requires freedom to make choices; accountability requires constant surveillance. The two are opposing concepts. (p. 16)

In a responsible environment, teachers may select media which are appropriate to their practical theories of teaching; practical theories they have constructed in response to a community of shared meanings. The school community consists mostly of students, whom teachers take very seriously when selecting media. Taylor (1980) wrote that teachers generally asked five questions when selecting media, and the most

important question was, "Will these materials help me engage the interests and energies of my students?" The interaction between teachers and students, for better or worse, is a collection of shared meanings. Media selection by teachers is one example of the school community in action. Print and non-print media in schools are an intrusion into the school in most cases. Many teachers search for media to reflect the shared meanings of the communities in which they work. Both of the case study teachers conducted active reviews in order to locate media that would be appropriate in their classrooms with their students; often, with marginal results.

A Revised Schema for the Selection of Print and Non-print Media

I have outlined a schema for the selection of print and non-print media for classroom use by teachers. If it looks like a media production model, it is. Until the system of producing media changes, selection is unlikely to change (Komoski, 1985). Therefore, I have suggested how the system of media production might be changed in order to facilitate a more practical method of media selection. The method of selection is criticism of media intended for classroom use. "Criticism," wrote Dewey (Ratner, 1939), "is judgment."

> The material out of which judgment grows is the work, the object, but it is this object as it enters into the experience of the critic by interaction with his own sensitivity and his knowledge and funded store from past experiences. As to their content, therefore, judgments will vary with concrete material that evokes them and that must sustain them if criticism is pertinent and valid. (pp. 266-7)

What makes this model pertinent to criticism is that it is an attempt to provide media relevant to the teacher's knowledge of teaching and his or her funded store of past experiences with students. One way of having media to select that might fit the variety of practical theories of teaching that teachers have, is to provide a variety of approaches to a lesson in one

package. A teacher might order a package with as many as five different approaches to teaching a lesson or series of lessons on a particular topic. After selecting the approach which best fits classroom needs, the unwanted media could be returned to the distributor. This would allow teachers to select media which might be more appropriate to their teaching style and their students. But before appropriate media can exist, it must be produced. Even when teachers are able to find media that fits their curriculum, many times they must settle for something that is at odds with their practical theory of **how** the lesson should be taught. One way of producing and selecting media is criticism. Criticism seems to fall into three parts: the intent of the author, the thing to be criticized, and the intent of the critic. The author in this model is the teacher whose instruction is of interest. The thing to be criticized is his or her instruction. The critic is a producer of media who is studying the work of teachers with the intention of encapsulating the instruction via print or non-print media. However, the ultimate critic of media used in classrooms is the student for whose educational benefit the teacher chooses media. Consequently, this schema is different from the first draft because it gives greater attention to student judgments of print and non-print media.

A Revised Schema for the Selection of Print and Non-print Media

In order to create print or non-print media that may be appropriate to the practical theories of teaching of a wide variety of teachers, a variety of teaching methods might be identified. Next, these approaches to teaching the same subject content could be converted to print or non-print media. The first step in the schema would be to locate teachers who are recognized as competent in teaching the particular subject matter of interest.

1. **Locate and observe teachers who motivate and teach students well** (defined by students, other teachers, administrators, and the researcher). Interview students in small groups to ascertain why these particular teachers have been effective (why did they like the instruction, what did they learn, and how might their teacher's instruction be converted to print or non-print media). **Five** teachers might be sufficient for a varied sample of teaching techniques. In the event that five teachers were used, media representing five different approaches to the same lesson would be produced. The greater the variety in approaches to teaching, the richer the sample. Teachers

who participate in the process should receive copyright and royalty considerations for any instruction based on their teaching.

2. **Analyze the work of these teachers using criticism**

   a. The Teachers' Intent:
   Gain information about the teacher's intent for the lesson or unit through observations of and interviews with the teacher.

   b. The Instruction:
   Focus attention on the instruction that occurs in the classroom by gathering at least the following information.

      1) Examples of instructional print and non-print media produced by the teacher
      2) Examples of student work related to the instruction
      3) Teacher assessments and comments about student work and the enacted instruction
      4) Audio tape and video tape records of the lessons of interest
      5) Lesson plans related to the instruction to be converted to media

   c. A Statement of the Critic's Values:

      1) The producer
      Since the critic will also be the producer of instructional materials and the person to judge the usefulness of the teachers' strategies, the critic's views should be made available as criticism and as a producer of instructional media. The criticism should be made available to teachers, parents, school boards and selection committees as they choose media for purchase by their schools.
      2) The student
      Since the ultimate critics and consumers of media used in schools are students, their reactions to the instruction would be valuable. Student reactions to the instruction could be gathered through observation and interviews with students (why did they like the instruction, what did they learn, and how might their teacher's instruction converted to print or non-print media). This criticism should also be made available to teachers as they choose print and non-print media for their classrooms.

3. **Production and abstract**

   a Production:
   Production of five media based lessons could begin at this stage. Media production should be guided by parts 1 and 2 of the schema.

b. Abstract:
An abstract should be made available to buyers before they purchase media. Abstracts should contain at least the following:
1. An abstract of the producer's original criticism (2a)
2. An abstract of student's original criticism (2b)
3. A list of physical contents (e.g. computer programs, interactive video disks, slides, film strips, handouts, etc.)
4. Subject matter resources contained within the package
5. List of potential activities
6. Observation reports from classroom field tests of the five media based lessons including student evaluations
7. Assessments of the media based lessons and suggestions for use written by the original teachers whose teaching strategies were used as a model for the production of the media

The schema uses the idea of criticism to bring about the production of materials that could provide teachers with media to match their practical theories of teaching, or at least not violate those personal theories. Actually, the process utilizes the ideas of criticism and some methods of qualitative research such as the collection of documents (e.g., lesson plans, student work), observation, and interview. Perhaps the methodology could be called qualitative criticism.

The schema is also a selection model because part 3b, the abstract, gives teachers enough information to make an informed judgment for selection. Presently, teachers often have to take "a shot in the dark" when selecting print and non-print media for their classrooms. In fact, an Educational Products and Information Exchange (Komoski, 1985) study found that fewer than one percent of current commercially produced media products had ever been field tested. It may seem unrealistic to suggest that media not only be field tested but also be produced with practical theories of teaching in mind. However, what is being suggested is a comprehensive schema about how media might be selected that would have some hope of being sensitive to the social diversity found in schools. Students interviewed during the research mentioned above, judged media on its relevance to them and how they learned. The research also suggested that the first question asked by the teachers studied was, "Will these materials engage the interests and

activities of my students?" The question is sensitive to the classroom context of instruction. The two case study teachers taught from very different practical theories of teaching, but ones which each deemed appropriate for their students. If, as Anyon (1980) and Willis (1977) suggested, schools can dramatically vary in social context as well as instructional context, then the question of media selection becomes more complex. Teachers are part of the local school context. In most cases, their practical theories of teaching are probably representative and sensitive to that school. If so, those practical theories of teaching ought to be part of their media selection routines. The revised schema for selection of print and non-print media is a conceptual plan for providing a critical basis for selecting media for socially diverse classroom environments. It is based on the idea that teachers select print and non-print media based on its acceptance by students. In contrast, the present view of many instructional designers (media producers) is that media should be based on behavioral objectives. Increasingly, this view is being challenged from within and without the field of instructional technology.

> In the public classroom, the question is being raised as to whose knowledge is to count. Is it possible that at some future time knowledge from all knowledge communities or worldviews can be equally honored? How would the difficult ethical issues be negotiated? How can we hope to even hold open the conversation? As Richard Bernstein (1983) observes when writing about the work of Rorty:
>
> We must appreciate the extent to which our sense of community is threatened . . . by the faulty epistemological doctrines that fill our heads. The moral task of the philosopher or cultural critic is to defend the openness of human conversation against all those temptations and real threats that seek closure. (p. 205)

> If the common school classroom is to offer a space for the "great human conversation," where values, knowledge and action are guided by ethical negotiations and where knowledge groups are equally empowered, what might this mean for an evolving instructional technology? Instructional technology, as it has been thought of, has supported the delivery of an authoritative and relatively fixed knowledge base across time and space. Heinich holds that ". . . the basic premise of instructional technology is that all instructional contingencies can be managed through space and time . . ." (1984, p. 68). The phrase "through space and time" means that the same static knowledge is delivered to the client group no matter where they reside, Malibu or Harlem; and, because that knowledge is locked into a software "time capsule," it can be opened when needed by the client group, tomorrow, six months, or six years from now.
>
> *Replicability*, alluded to earlier in Heinich's definition, means *sameness*: the same product once designed can be reproduced endlessly and used repeatedly. *Reliability*, as used in the definition means the results of outcomes for the groups using the product are the same no matter where or when they use it. (Taylor and Swartz, 1991, p. 60)

The proposed schema is an alternative to the doctrine of sameness.

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